

CLAIMS

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By*

Office Record-File No.

1. Nucleic material of the retroviral genomic type, in isolated or purified state, at least partially functional or nonfunctional, whose genome comprises a reference nucleotide sequence chosen from the group including the sequences SEQ ID NOS: 1 to 15, their complementary sequences, and their equivalent sequences, in particular the nucleotide sequences exhibiting, for any sequence of 100 contiguous monomers, at least 70% and preferably at least 90% homology with respectively said sequences SEQ ID NOS: 1 to 15.

2. Nucleic material of the retroviral genomic type, in isolated or purified state, at least partially functional or nonfunctional, whose genome comprises a reference nucleotide sequence, encoding any polypeptide exhibiting, for any contiguous sequence of at least 30 amino acids, at least 80%, and preferably at least 90% homology with a peptide sequence capable of being encoded by at least a functional part of the reference nucleotide sequence according to claim 1.

3. Nucleic material of the retroviral genomic type according to *Claim 1*, comprising a nucleic fragment inserted between two sequences corresponding respectively to the LTR region and to the gag gene for the retroviral genomic structure, in particular a nucleic fragment consisting of or comprising the sequence SEQ ID NO: 12.

4. Nucleic material of the subgenomic retroviral type, consisting of a nucleotide sequence identical to SEQ ID NO: 11, with at least one deletion, such as a sequence chosen from SEQ ID NOS: 7 to 9.

5. Nucleic material according to *Claim 1*, comprising at least one functional nucleotide sequence encoding at least one retroviral protein.

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cont) a 6 *claim 5* Nucleic material according to either of
a ~~claims 1 and 4~~, comprising at least one regulatory
nucleotide sequence.

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5 7. Nucleotide fragment of at least 100 bases,
comprising a nucleotide sequence chosen from the group
comprising:

a) all the nucleotide sequences, partial and
complete, of a nucleic material according to *claim 1*,
~~any one of~~
~~claims 1 to 6~~

10 b) all the nucleotide sequences, partial and
complete, of a clone chosen from the group including
the clones:

- cl.6A2 (SEQ ID NO: 1)
- cl.6A1 (SEQ ID NO: 2)
- 15 - cl.7A16 (SEQ ID NO: 3)
- cl.Pi22 (SEQ ID NO: 4)
- cl.24.4 (SEQ ID NO: 5)
- cl.C4C5 (SEQ ID NO: 6)
- cl.PH74 (SEQ ID NO: 7)
- 20 - cl.PH7 (SEQ ID NO: 8)
- cl.Pi5T (SEQ ID NO: 9)
- cl.44.4 (SEQ ID NO: 10)
- HERV-W (SEQ ID NO: 11)
- cl.6A5 (SEQ ID NO: 12)
- 25 - cl.7A20 (SEQ ID NO: 13)
- cl.7A21 (SEQ ID NO: 14)
- LTR (SEQ ID NO: 15)

c) the sequences which are respectively complementary to the sequences according to a) and b)
30 d) the sequences which are respectively equivalent to the sequences according to a) to c), in particular the nucleotide sequences exhibiting, for any sequence of 100 contiguous monomers, at least 50%, and preferably at least 70%, for example at least 90%
35 homology with the sequences a) to c).

8. Nucleic probe for the detection of a nucleic material, inserted or otherwise into a nucleic acid, characterized in that it is capable of hybridizing

~~or specifically with a nucleic material, according to any one of claims 1 to 6, or a nucleic fragment according to claim 7.~~

9. Probe according to claim 8, characterized in that it comprises a marker.

10. Nucleic primer for the amplification by polymerization of an RNA or of a DNA, characterized in that it comprises a nucleotide sequence capable of hybridizing specifically with a nucleic material according to ~~any one of claims 1 to 6, or a nucleic fragment according to claim 7.~~

11. Nucleic probe or nucleic primer, characterized in that it consists of a nucleotide sequence chosen from the group including SEQ ID NOS: 16 to 28.

12. RNA or DNA, and in particular replication vector, comprising a nucleotide fragment according to claim 7.

13. Peptide encoded by any open reading frame belonging to a nucleotide fragment, according to claim 7, in particular polypeptide, for example oligopeptide forming an antigenic determinant recognized by sera from patients affected by an autoimmune disease, or a pathology which is associated with it, or from patients having a pathological pregnancy or an unsuccessful pregnancy.

14. Peptide according to claim 13, characterized in that it is encoded by a nucleotide fragment comprising an open reading frame encoding one or more retroviral ENV proteins.

15. Use of a nucleic material according to ~~claims 1 to 6, or of a nucleotide fragment according to claim 7, or of a peptide according to claim 13 or 14~~, as molecular marker for an autoimmune disease or for a pathology which is associated with it, or for a pathological pregnancy ^B or for an unsuccessful pregnancy.

16. Use of a nucleic material according to ~~claims 1 to 6, or of a nucleotide fragment according to claim 7,~~

as chromosomal marker for susceptibility to an autoimmune disease or for a pathology which is associated with it, or for a risk of a pathological pregnancy or of an unsuccessful pregnancy.

5a 17. Use of a nucleic material according to claims 1,
~~to 6, or of a nucleotide fragment according to claim 7,~~
a as proximity marker for a gene for susceptibility to an autoimmune disease ~~or B~~ to a pathology which is associated with it, or to a risk of a pathological 10 pregnancy or of an unsuccessful pregnancy.

18. Method for the molecular labeling of an autoimmune disease or of a pathology which is associated with it, of a pathological pregnancy or of an unsuccessful pregnancy, characterized in that any 15 nucleotide fragment according to claim 7, either in RNA form or in DNA form, is identified and/or quantified in any biological body material, in particular body fluid.

19. Method according to claim 18, characterized in that cells expressing the nucleotide fragment according 20 to the claim are detected in said biological body material.

20. Diagnostic or therapeutic composition comprising a nucleic material according to claims 1 to 6,
~~a nucleotide fragment according to claim 7, or a~~
25 peptide according to claim 13 or 14.

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